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ESTABLISHING A CENTER FOR RESEARCH IN VOCATIONAL AND
TECHNICAL EDUCATION.

BY- NAGEL, ELWYN H.

NORTH DAKOTA UNIV., GRAND FORKS

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ACTIVITIES PURSUED BY THE CENTER FROM THE TIME OF ITS
DESIGNATION AS A RESEARCH COORDINATING UNIT (RCU), JUNE 30,
1965, TO NOVEMBER 30, 1966 ARE REPORTED. OBJECTIVES OF THE
RCU WERE TO (1) BUILD AN ATMOSPHERE WITHIN THE STATE THAT
COMMITTS ITSELF TO RESEARCH AND IS RECEPTIVE TO IT, (2)
STIMULATE PROJECTS, IDEAS, AND UNDERSTANDING OF RESEARCH, (3)
PROVIDE LEADERSHIP IN RESEARCH RELATED ACTIVITIES, (4)
COORDINATE STATE EDUCATION RESEARCH EFFORTS IN THE STATE
AGENCY AND WITH OTHER GOVERNMENT AND PROFESSIONAL AGENCIES
AND PROFESSIONS, (5) SERVE AS CONSULTANTS ON RESEARCH IDEAS
AND PROJECTS THAT FORWARD VOCATIONAL EDUCATION, (6)
DISSEMINATE RESEARCH INFORMATION THAT ENABLES OTHERS TO
UTILIZE RECENT RESEARCH FINDINGS, (7) IDENTIFY RESEARCH
TRAINING NEEDS AND PERSONNEL, (8) WORK TOWARD THE
IDENTIFICATION OF BASIC ISSUES AND PROBLEMS NEEDING RESEARCH,
AND (9) DEVELOP LONG-RANGE PLANS FOR RESEARCH. THE RCU
ASSISTED IN THE DEVELOPMENT OF 17 RESEARCH PROPOSALS
INCLUDING-- (1) FACTORS INVOLVED IN THE DECISION TO MIGRATE
AND THE IMPACT OF MIGRATION UPON THE INDIVIDUAL AND THE
SENDER AND RECEIVER COMMUNITY, AND (2) DETERMINATION OF NORTH
DAKOTA HIGH SCHOOL STUDENTS' KNOWLEDGE OF OCCUPATIONAL AREAS
AND VOCATIONAL TRAINING AVAILABLE. THE DIRECTOR, FUNDING
REQUESTED, AND STATUS ARE SHOWN FOR EACH PROJECT. THE RCU
HELPED IDENTIFY RESEARCH PROBLEMS, AND SUPERVISED AND
COORDINATED STUDIES RELATED TO VOCATIONAL EDUCATION. (SL)

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FINAL REPORT
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ESTABLISHING A CENTER FOR RESEARCH IN VOCATIONAL
AND TECHNICAL EDUCATION

January 1967

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ESTABLISHING A CENTER FOR RESEARCH IN VOCATIONAL
AND TECHNICAL EDUCATION

Contract No. OE-5-85-114

Elwyn H. Nagel

January 1967

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

University of North Dakota
Grand Forks, North Dakota

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INTRODUCTION

This is a final report of activities pursued by the Center for Research in Vocational and Technical Education, University of North Dakota, during the period June 30, 1965, to November 30, 1966. The Center was designated a Research Coordinating Unit (RCU) on June 30, 1965, under the directorship of Dr. Elwyn H. Nagel, and funded under the provisions of Section 4(c) of the Vocational Education Act of 1963. All activities of the project have been designed for the attainment of the objectives incorporated in the Vocational Education Act of 1963.

The establishment of the Research Coordinating Unit took place with full cognizance, on the part of the activating officials, of the primary purpose of vocational education--which is to provide the skills and knowledge which people must have for gainful employment.

Currently, North Dakota has critical occupational problems calling for a concerted effort in vocational education research. The State is predominantly rural; its economy is based chiefly upon agricultural production, with little in-state processing. In the past two decades, the accelerated rate of farm mechanization and farm consolidation has brought about a sharp decline in the demand for agricultural labor, with the result that North Dakota is losing a large percentage of its greatest asset, the many young people who now possess only agricultural skills.

A concomitant difficulty is the diminishing demand for semi-skilled or unskilled labor in the urban centers. Large numbers of North Dakotans migrating from rural areas to urban centers are untrained in the technical skills required for industrial employment. The consequent shortage of skilled technical workers in proportion to urban population is a deterrent to

the industrial expansion needed to take up the labor surplus. The total picture constitutes a challenge to educators and to industry at all levels.

Vocational education has played an essential role in the development of society, but research in vocational education is a product of the twentieth century and particularly of the past decade. At the inception of the RCU, some research was in progress in vocational education in North Dakota, but it was disorganized, uncoordinated, and lacking in structure for assessment of all the critical problems of occupational education. The activities of the RCU, following the purposes outlined in the proposal under which the project was established, have been concentrated on a state-wide design and coordination for an attack upon research problems as revealed by preliminary surveys and inter-agency conferences.

METHOD

The RCU is located in Room 6 of the Occupational Therapy Building near the College of Education Building on the University of North Dakota Campus. The facilities of the University's Data Processing Center are available to the RCU. The Bureau of Educational Research and Services, The Bureau of Economic Research and the Computer Center of the University are all in close proximity to the RCU, and the staff and facilities of these department are available for RCU projects.

The Center for Research in Vocational and Technical Education is responsible to the State Board for Vocational Education and the State Director of Vocational Education. A six-member advisory committee provided direction in identifying problems and developing plans for conducting needed research in vocational education. The advisory committee was comprised of: Kent G. Alm, Director, Summer Sessions and Assistant Dean of Education, University of North Dakota (Chairman); Caroline Budewig, Dean of Home Economics, North

Dakota State University; Leonard T. Havig, Superintendent of Schools, Williston, North Dakota; M. F. Peterson, Superintendent of Public Instruction for North Dakota; Harold Rosengren, Vice-President, State School of Science, Wahpeton, North Dakota; and LeRoy H. Swenson, State Director of Vocational Education, Bismarck.

The Center began operations with a staff consisting of a half-time director, two full-time principal researchers, four half-time research assistants and a full-time secretary. The staff organization changed as dictated by the necessities of the program to a composition including one full-time director, two full-time principal researchers, four part-time research assistants, consultants, one full-time secretary, one part-time secretary, and one data processing assistant.

Pursuant to the internal reorganization, the director assumed primary responsibility for coordinating research activities with the state institutions of higher learning and with maintenance of liaison with governmental agencies, businesses, industries, and out-of-state research institutions. Pursuant to his directives, the principal researchers have cooperated with all agencies concerned in the overall purposes of the project in identifying problems for research, outlining procedures for the research projects assigned to the research assistants, assessing the findings of the projects and arranging for the dissemination and, whenever possible, the application of the findings.

At all times, the staff of the Center, (the director, the principal researchers, and the research assistants), has been actively communicating and cooperating with the agencies and groups which are engaged in or otherwise concerned with the reconciliation of group and individual problems in training, employment opportunities and manpower needs in the state of North Dakota.

OBJECTIVES AND ACTIVITIES FOR THEIR ACCOMPLISHMENT

The effectiveness of the RCU can be measured by summarizing the activities related to fulfilling broad objectives. In many instances the RCU activities overlapped several objectives.

Objectives and activities for their accomplishment follow:

1. Build an atmosphere within a state that commits itself to research and is receptive to it--especially with state staff, school leaders and legislators.

The role of the RCU in strengthening vocational education in the state was explained at the first Governor's Conference on Vocational Education.

Meetings were held with several high school officials and agencies who are concerned with vocational education, including the State Penitentiary and the State School of Science.

A meeting was held with the Director of the State School for the Blind to discuss the need for providing more vocational education for students in the school.

The RCU director and staff met with the Vocational Education Director of the State Industrial School to plan a survey of the vocational education needs of its students.

2. Stimulate projects, ideas and understanding of research.

A meeting was held with the majority leader of the State Senate and the Chairman of the Legislative Research Committee to discuss the activities of the RCU and to offer assistance in a requested county-wide dropout study and manpower survey.

Meetings were held with representatives of the Economic Development Commission and the North Dakota Employment Service. Both of these agencies indicated the need for more information to assist employees and employers in North Dakota.

The RCU staff met with a State Department of Public Health representative to discuss the vocational education programs needed for the mentally retarded.

RCU representatives appeared on a television program sponsored by the Greater North Dakota Association to explain the need for a study of the manpower resources of the State.

A meeting was held with the school administrators from the seven largest cities of the State to discuss the development of an educational research center.

The RCU staff assisted doctoral and master's degree students with research projects related to vocational education.

RCU assisted in developing methods for identifying vocational educable mental retardates and for predicting their vocational success.

The RCU staff met with the vocational agriculture instructors enrolled in Agriculture Education at North Dakota State University to assist in planning research projects related to vocational education and vocational agriculture.

RCU staff members developed research proposals and submitted them to the University Faculty Research Committee to request funds for pilot studies and for the vocational education research projects of graduate students.

A member of the RCU staff assisted in the development of a proposal submitted by the Business Education Department at the University for a pre-service training program for office education coordinators.

In an effort to stimulate and facilitate educational research and development in North Dakota, the RCU wrote and distributed guidelines for use in submitting proposals to the RCU and the State Director of Vocational Education. Persons who are interested in conducting research will be offered assistance from State funds after their proposals have been evaluated and approved by a review panel.

The RCU assisted in the preparation of an NDEA proposal for training school counselors at both elementary and secondary levels. The majority of high schools in the State have no professionally trained vocational counseling and guidance personnel to help youth make vocational choices.

There is a critical shortage of trained vocational rehabilitation counselors in the State, and there are no training opportunities for vocational rehabilitation counselors in North Dakota or several surrounding states. The Director of the RCU met with the State Director of Vocational Rehabilitation and other VRA personnel and assisted in developing a proposal for offering traineeships in VR counseling at the University. If vocational rehabilitation services become more readily available, the State's physically and mentally disabled will have more help in obtaining gainful employment.

3. Provide leadership in research related activities....seminars, conferences.

An RCU staff member made a presentation at the Conference of the Vocational Homemaking Teachers at Grand Forks.

Discussions were held with the Director of the Annual Conference-Workshop for School Administrators to consider vocational education as the topic for the 1966 session. The RCU staff assisted in planning

and conducting the school administrators' conference on the Administration of Vocational Education and was involved in a later follow-up evaluation of the conference.

The RCU initiated and coordinated a study of the occupational status, vocational and educational plans of the non-college-going 1965 North Dakota high school graduates which indicated the interest in, and need for, further adult and vocational education.

An RCU staff member presented addresses and/or discussed various topics related to vocational education before several groups including the Institute for Study in Industrial Arts, teachers of the mentally retarded, business education classes, North Dakota distributive education coordinators and teachers, the Head Start Institute, and the Grand Forks Board of Education.

4. Coordinate state education research efforts in state agency and with other state government and professional agencies and professions.

Members of the RCU met with the State Coordinating Committee on Mental Retardation to learn more about the special vocational programs needed for the mentally retarded.

At the request of the North Dakota Indian Affairs Commission, the RCU carried out a comparison of Indian student dropouts and other dropouts in the State.

5. Serve as consultants on research ideas and projects that forward vocational education.

The RCU Director participated in the Conference on Problems of Occupational Education in the Upper Midwest Region.

The RCU consulted with the Grand Forks Public School System in establishing an Adult Counseling Center.

The RCU assisted in the planning of a supplementary education service for Northeastern North Dakota under Title III of the Elementary and Secondary Education Act.

RCU consulted with county superintendents of schools in areas where adult education programs are needed but not established at this time.

A member of the RCU staff initiated a proposal requesting support to develop a coordinated state-wide in-service education program for K through 12 teachers and administrators. The Upper Midwest Regional Educational Laboratory approved a planning grant of \$12,945 for use in helping the State Colleges, the Universities and the State Department of Education and Teachers to identify specific needs of education that might be met by an effective state-wide in-service education program.

Members of the RCU were present at a regional occupational education research and development planning conference sponsored by the Minnesota RCU and the Upper Midwest Regional Educational Laboratory. The conferees selected the problem of identifying the economic, sociological and psychological criteria for evaluating the success of vocational programs. The results of this study will be used to determine the types of vocational education that should be provided at various educational levels; and the relative effects of different kinds of pre-vocational education, work experience and vocational programs on subsequent occupational success and satisfaction. Results of the study will be useful in determining if comprehensive post-secondary institutions are more efficient than specialized institutions in providing vocational programs.

The Director attended a meeting of representatives from the State Alcoholic Commission, the State Mental Hospital, the Vocational Rehabilitation Administration and the University to discuss the need to prepare counselors to assist in the vocational rehabilitation of physically disabled, alcoholic, and mental patients.

The RCU held meetings with the Director and Coordinator of State-wide Planning for Vocational Rehabilitation Services in North Dakota. The two year project to plan for comprehensive vocational rehabilitation services will provide information useful in developing vocational education programs.

The RCU assisted in the development of a proposal for a Program Development Grant for the training of Vocational Rehabilitation Counselors.

6. Disseminate research information that enables others to utilize recent research findings.

Representatives of the RCU attended the Vocational Education Seminar at Ohio State University.

An RCU member discussed "Vocational Education and the High School Dropout" at a meeting of the League of Women Voters and at a meeting of the administrators and principals of the Grand Forks Schools.

Plans were completed for the development of a report to the State Board of Vocational Education, to include the findings of several research projects and basic data that will be helpful to the Board and the State Legislative Research Committee in recommending legislation for the improvement and development of vocational educational facilities for the State.

Staff members attended a two day conference on research in vocational and technical education at the University of Wisconsin to learn the progress and results of research now under way or recently completed.

The RCU invited faculty, students and local educators to showings of the film titled "A New Design for Education," based on investigations of the High School Flexible Scheduling and Curriculum Study at Stanford University.

7. Identify Research Training needs and personnel.

The RCU staff attended the North Dakota Education Association Convention and met with the North Dakota Adult Education Association, Association of Secondary School Principals, and the Guidance and Counseling Division.

The RCU assisted in selecting eight graduate students for traineeships in educational research and helped to provide practical research experience for students enrolled in this program.

The RCU met with colleges involved in vocational education, including the State School of Science and the Devils Lake Community College, for the purpose of discussing additional training for the staffs of these colleges.

The RCU staff helped identify research problems and supervised applied research projects for students interested in occupational research and for the graduate student trainees enrolled in the program to train educational researchers funded by the USOE.

8. Work toward the identification of basic issues and problems needing research.

The RCU was represented at the Region VI Vocational and Technical Education Conference in Kansas City on "The Social and Economic Implications in Planning and Conducting Vocational and Technical Education Programs".

The staff of the RCU met with the Director of the Community Action Program for the Fort Totten Indian Reservation, to assist in developing basic, pre-vocational and adult education programs. Leaders of the Indian community expressed interest in developing education and training programs acceptable to the Indians.

The RCU worked with the State Employment Service and the Grand Forks Public Schools in establishing an Adult Counseling Center. Interests and needs for adult education were identified through counseling; an expanded adult education program was developed to meet these needs.

With the cooperation and support of labor union leaders the RCU initiated a survey of labor union manpower and training needs in North Dakota.

9. Develop long range plans for research.

Meetings were held with the president of the State Labor Council to consider research plans and the place of labor in these plans.

A meeting was held with the State Commissioner of Higher Education who requested assistance from the RCU in planning a state-wide study of college and university dropouts.

PROPOSALS

The RCU assisted in the development of research proposals. Table 1 provides a summary of the proposals submitted, the name of the director, the funding requested, and the status of the projects.

TABLE 1

A SUMMARY OF THE PROPOSALS DEVELOPED BY THE
CENTER FOR RESEARCH IN VOCATIONAL AND TECHNICAL EDUCATION

PROJECT TITLE	DIRECTOR	COMMENCE	FINISH	LOCAL FUNDS	FEDERAL FUNDS	SOURCE	STATUS
1. Establishing a Center for Research in Vocational and/or Technical Education	E.H. Nagel	6/30/65	11/31/66	\$22,102	\$103,078	USOE Vocational Education	Completed November 1966
2. An Undergraduate Training Institute for Vocational Education	C.H. Matz	3/1/66	12/31/66		33,300		N.A.
3. A Conference for the Administration of Industrial Education	C. Morris	6/30/66	3/1/67		1,500	USOE Vocational Education	Approved
4. North Dakota Manpower Survey	E.H. Nagel	7/1/66	11/30/67		8,910		N.A.
5. Establishing a Center for Manpower Research to Serve the Rural Region of North Dakota, South Dakota, Montana, and Northern Minnesota	W.E. Koenker	7/1/66	6/30/69		217,200		N.A.
6. Factors Involved in the Decision to Migrate and the Impact of Migration Upon the Individual, and the Sender and Receiver Community	R.L. Johnson J.J. Kiefert	8/1/66	9/30/67	1,550	35,935	USOE Vocational Education	Approved

PROJECT TITLE	DIRECTOR	COMMENCE	FINISH	LOCAL FUNDS	FEDERAL FUNDS	SOURCE	STATUS
7. A Planning Grant to Develop a Coordinated State-Wide In-Service Education Program for K-12 Teachers and Administrators	C.H. Matz	9/28/66	8/31/67		\$12,954	Upper Midwest Regional Educational Laboratory	Approved
8. The Vocational Plans of Non-College Bound 1965 High School Graduates	E. Krahmer G. Henry	11/1/66	6/30/66	\$ 344		UND Faculty Research Grant	Approved
9. Determination of North Dakota High School Students' Knowledge of Occupational Areas and Vocational Training Available	C.A. Hausken	11/1/65	6/30/67	344		UND Faculty Research Grant	Approved
10. The Development of Instruments for use in Manpower and Vocational Skill Surveys.	E.H. Nagel	11/1/66	6/30/67	315		UND Faculty Research Grant	Approved
11. Attitudes Toward Career Choice of the North Dakota Reservation Indian	C.H. Matz	11/1/66	6/30/67	252		UND Faculty Research Grant	Approved
12. Response Recall and List Differentiation in the A-B A-C Intertask Transfer Paradigm	T.J. McCrystal	11/1/66	6/30/67	322		UND Faculty Research Grant	Approved
13. Continuation of the Center for Research in Vocational Technical Education	E.H. Nagel	12/1/66	6/30/68	34,226	89,805	USOE Vocational Education	Approved
14. Facilitation and Interference in Older Adult Learners	T.J. McCrystal	3/1/67	7/31/67	190	7,224	USOE Vocational Education	Approved

PROJECT TITLE	DIRECTOR	COMMENCE	FINISH	LOCAL FUNDS	FEDERAL FUNDS	SOURCE	STATUS
15. An Undergraduate Training Institute for Vocational Education	C.H. Matz	3/1/67	12/31/67		10,422		N.A.
16. A Graduate Program Training Educational Researchers for Rural America (Grant Trainees)	E. Krahmer	9/1/66	8/31/67		62,600	USOE Title IV	Approved
17. A Graduate Program Training Educational Researchers for Rural America (Program Development)	E. Krahmer	9/1/66			32,400	USOE Title IV	Approved

COORDINATED RESEARCH

The RCU helped identify research problems and supervised and coordinated studies related to vocational education. These projects, directed primarily by graduate students and vocational educators, are shown in Table 2.

The RCU developed a library of about 1,000 items of reference material related to vocational education, including research reports and proposals, abstracts and bibliographies. These library materials were used by vocational educators and researchers who had identified a research area or who wished to study a specific topic in occupational education. As time permitted the RCU staff assisted in defining researchable problems, in reviewing the literature, and in writing proposals for research studies.

Studies Coordinated by the RCU

<u>Project Title</u>	<u>Director</u>
A Study of Academic and Biographical Variables for Predicting Achievement in Technical Programs at the North Dakota State School of Science	Roger C. Anderson
The 1965 Non-College Going Male Graduates of North Dakota High Schools: Their Occupational Status, Vocational Plans, and Interests in Further Education	James J. Augustyn
The 1965 Non-College Going Female Graduates of North Dakota High Schools: Their Occupational Status, Vocational Plans, and Interests in Further Education	Gordon H. Henry
The Identification of Variables Related to the Migration Aspiration of North Dakota High School Senior Boys	James J. Kiefert
A Comparison of College, Vocational School, and Non-College Bound 1966 North Dakota High School Senior Boys	Thomas P. Johnson
Opportunities in Non-Production Agriculture Occupations in Minot, North Dakota	Maynard J. Iverson
The Identification of Variables Related to Persistence, Transfer, and Attrition of Engineering Students	Zeno Van Erdewyk
Opportunities in Distributive Occupations in Bismarck, North Dakota	Leonard F. Pokladnik
Enrollment and Attrition of Students in Higher Education in North Dakota	Gordon H. Henry

<u>Project Title</u>	<u>Director</u>
A Report on Dropouts From North Dakota Public High Schools	Gary E. Boyles
Predicting Achievement in Technical Programs at the North Dakota State School of Science	Roger C. Anderson
Private Vocational Schools in North Dakota	RCU Staff
Migration Patterns and Selected Characteristics of Migrants From Walsh County, North Dakota	James J. Kiefert

SUMMARY

The Research Coordinating Unit at the University of North Dakota was approved and funded under the provisions of the Vocational Education Act of 1963, P.L. 88-210, Section 4(c).

In the early months of its existence, the RCU devoted much of its time to establishing cooperative working relationships with North Dakota educators and vocational education agencies and communicating with civic, educational and political leaders in the interest of promoting an understanding of vocational education--what it is, why it is essential to the individual, to the community and especially to the problems of the state of North Dakota.

In an effort to clarify for the general public the separate roles of the State, of educational institutions, and of employers in the development and implementation of vocational education programs a series of meetings and presentations were held throughout the State.

The RCU initiated several long-term research projects and completed pilot studies necessary for certain projects. Determining the levels at which various types of vocational education should be offered and developing a plan for a statewide system of vocational education have been a continuing effort of the RCU.

The State Board for Vocational Education, the Advisory Committee for the RCU, the State Director of Vocational Education, the State Vocational Education Staff, and the Regional Director, Vocational Technical Branch, USOE, met with the RCU to discuss research priorities and to review and evaluate the progress and planned activities of the RCU.

The RCU staff has developed a cooperative working relationship with employers, labor leaders, vocational educators, and school administrators

throughout the State.

The RCU has been effective in stimulating, coordinating, and conducting research relating to occupational education needs, employment opportunities, and other vocational education problems in the State.